Contribution ID: **210** Type: **oral presentation**

The evolution of the distributed Event Reconstruction Control System in BaBar

Monday 27 September 2004 14:00 (20 minutes)

The Event Reconstruction Control System of the BaBar experiment was redesigned in 2002, to satisfy the following major requirements: flexibility and scalability.

Because of its very nature, this system is continuously maintained to implement the changing policies, typical of a complex, distributed production enviromnent.
In 2003, a major revolution in the BaBar computing model, the Computing Model 2, brought a particularly vast set of new requirements in various respects, many of which had to be discovered during the early production effort, and promptly dealt with. Particularly, the reconstruction pipeline was expanded with the addition of a third stage. The first fast calibration stage was kept running at SLAC, USA, while the two stages doing most of the computation were moved to the ˜400 CPU reconstruction facility of INFN, Italy.

In this paper, we summarize the extent and nature of the evolution of the Control System, and we demonstrate how the modular, well engineered architecture of the system allowed to efficiently adapt and expand it, while making great reuse of existing code, leaving virtually intact the core layer, and exploiting the "engineering for flexibility" philosophy.

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Session Classification: Distributed Computing Systems and Experiences

Track Classification: Track 5 - Distributed Computing Systems and Experiences